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Paragraph [0020] is as follows:

[0020] Initially, a plate holder is used to mount a gel plate for testing. The plate holder has a frame and electrodes. The mounted gel plate is moved from the mounted gel plate storage to the application station. A single pipette is provided so as to be in communication for loading with the wetting agent in the wetting agent container. The pipette is inserted into transfer hole in the electrophoresis station so as to apply the wetting agent onto the cooling plate of the electrophoresis chamber which is equipped with a cooling device. The mounted gel plate is then conveyed from the application station to the cooling plate in the electrophoresis station.

Paragraph [0028] is as follows:

[0028] In the present invention, the roller is also washed subsequent to the staining. The washing of the roller involves the step of moving the roller to a roller wash station, lowering the roller so as to be submersed in water, and then rolling the roller over a blotter paper so as to release water from the roller and to dry the roller.

Paragraph [0029] is as follows:

[0029] The present invention also involves the unique step of de-staining the dried mounted gel plate or the incubated mounted gel plate prior to the step of scanning. In those circumstances where de-staining is required, the stained mounted gel plate is moved from the drying or the incubating station to a washing station. The mounted gel plate is moved to the de-staining or washing station, wherein washing or fixing liquid is kept in the plate holder. As one end of the plate holder acts as a pivot,

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the plate holder is tilted at angle. A flow of washing or fixing liquid is then applied across the tilted mounted gel plate such that the flow of the washing or fixing liquid flows from the raised end of the mounted gel plate to the lowered end of the mounted gel plate. The surface of the mounted gel plate is suitably wiped so as to agitate the washing or fixing liquid flow across the surface of the tilted mounted gel plate. The de-stained mounted gel plate can then be leveled so as to have a horizontal orientation. This de-stained gel plate can then be moved to a station for drying, and the de-stained mounted gel plate can be moved to the scanning station for analysis. In the present invention, the back side of mounted gel plate is also washed by flowing of the washing or fixing liquid between the plate holder and the back side of mounted gel plate.

Paragraph [0037] is as follows:

[0037] In FIGURE 1, it can be seen that the very first step associated with the method of the present invention is the preparation of the sample plates, the mounted gel plates and the reagents. Initially, the manually loaded sample well plates are placed into the sample plate storage 10 located at the right side of the housing 2 of the automated electrophoresis apparatus 1. FIGURE 3 shows a top plan view of a sample plate F3, having numbered wells. This example of a sample plate may be used in the present invention. The mounted gel plates are loaded into the mounted gel plate storage 20 located on the opposite side of housing 2. FIGURES 2(a-c) show the structures of a mounted gel plate F2, comprised of a plate holder 200, electrodes 203 and a gel plate 210. The plate holder 200 protects the gel plate from evaporation when placed in the mounted gel plate storage 20, the electrophoresis chamber, the incubator and the de-staining compartment. The appropriate reagents

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used for the electrophoresis operation of the present invention are placed in the respective reagent reservoirs 40a-40f. Once the sample plates are loaded in the sample plate storage 10, the gel plates are loaded into the mounted gel plate storage 20 and the reagents are appropriately loaded, the automated electrophoresis apparatus 1 of the present invention will be able to carry out a large number of analyses in situ. As a result, contamination of samples is effectively avoided. Similarly, the human element associated with the manipulation of the electrophoresis analysis technique is avoided. The present invention carries out each of the steps in an automated manner so that the results can be displayed on the computer screen of computer 5 or printed out by printers 6.

Paragraph [0038] is as follows:

[0038] The preparation of the sample plate F3 and the mounted gel plate F2 includes lowering the bottom 20a of the mounted gel plate storage 20 so as to release the mounted gel plate F2 selected for testing. The single selected mounted gel plate F2 is moved from the gel plate storage 20 to the application station 50. Similarly, a single sample plate F3 is moved from the waiting stock 14 in the sample plate storage 10 by transferring belt 11. Before the transfer belt 11 is operated, the bottom 13 of the finished stock 15 is lifted so as to make space for passing the sample plate F3 under the finished stock 15. Then, the single sample well plate F3 is transferred into the position of sample well plate holder 55 by transfer belt 11.

Paragraph [0051] is as follows:

[0051] The final step associated with the automatic electrophoresis operation of the present

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invention is the step of scanning. This step of scanning applies to either of the staining processes. Initially, the mounted gel plate is moved the scan station 100. Scan station 100 has a scanner, a dryer 105 and utilizes a fan and a heat source. The mounted gel plate will, at this time, be showing visible bands. The scan station 100 will include a scanner 102 to electronically analyze the visible bands in the gel. This analysis will involve measuring the location, intensity and resolution of the bands. The collected information including the gel plate number 211 printed on the gel plate will create a profile of bands so as to allow the identification of the sample. The method of analyzing the visible bands in the gel is described in greater detail in association with U.S. Patent Nos. 5,460,709 or 4,890,247, owned by the present assignee. The mounted gel plate is then moved to the mounted gel plate disposal unit 30. This mounted gel plate disposal unit 30 will collect and stack the mounted gel plates after the scanning process has occurred. The mounted gel plates will be stacked from the bottom to the top at the side of the base 3 opposite the mounted gel plate storage 20. The scanned information can be displayed on the computer terminal 5 or printed out by way of printer 6.

Paragraph [0052] is as follows:

[0052] In the present invention it can be seen that the mounted gel plates will move in an automated manner across the base 3 of the automatic electrophoresis apparatus 1. With reference to FIGURE 5, the mounted gel plates are properly prepared on the left side of the base 3. These mounted gel plates will be passed through the various process until they are disposed on the right side of the base 3. The various other components of the automated electrophoresis apparatus will interact with these mounted gel plates as they move from station to station. The mounted gel plate is conveyed by the

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mounted gel plate carrier which is cached with both sides of the holder catcher 31. The cooling plate is lifted by moving the cooling plate lift 69 with the lifter 32 of the mounted gel plate carrier 33. The heater 82 is also lifted by moving the heat block lift actuator 86 with the mounted gel plate carrier 33.